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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/552,257

10/05/2005

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EXAMINER

SNYDER, ZACHARY J

ART UNIT

PAPER NUMBER

2889

MAIL DATE

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06/11/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/552,257	<b>Applicant(s)</b> YAMAMOTO ET AL.	
	<b>Examiner</b> Zachary Snyder	<b>Art Unit</b> 2889	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 March 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 5-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 8-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/05/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

Receipt is acknowledged of applicant's amendment filed 3/13/2009. Claims 1 and 3-14 are pending and an action on the merits is as follows. Applicant's arguments filed 3/13/2009 have been fully considered but they are not persuasive.

Applicant's arguments are as follows:

1) The lead portion does not extend from the wound portion across the light emitting part in proximity to or contacting with an outer surface of the light emitting part, to a side of the discharge lamp on which the second sealing part is disposed.

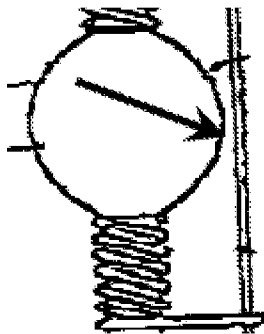
2) The coils touch each other and thereby create a closed loop at these contact points.

3) The lamp of the prior art does not include the gist of the present invention of reducing breakdown voltage by spirally winding the proximity conductor in a given range without a closed loop.

4) The lead wire is not wound around an outer circumference of the first sealing part.

In response:

1) As shown in the provided figure, the lead portion extending from the wound portion comes in proximity to an outer surface of the light emitting part at the arrow.



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2) Applicant's argument relies on the winding pitch of the coil being 100%. As discussed in the previous action, the prior art of record relies on a winding pitch of 500% which has a gap of at least 1.5 mm between windings so there is no contact and thereby no closed loop.

3) Applicant is relying upon non-structural, non-claimed limitations to argue against the prior art and is therefore not persuasive.

4) Applicant has asserted that the sealing portion is the sealant 4. The previous action pointed to small-diameter portion 1b as the sealing portion (small-diameter cylinder 1b is coupled to the enclosure 1a, paragraph 162).

### ***Election/Restrictions***

Newly amended claims 5-7 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1, 3-4, and 8-14, drawn to a discharge lamp, classified in class 313, subclass 594.
- II. Claims 5-7, drawn to process of operating a discharge lamp, classified in class 445, subclass 6.

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Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the discharge lamp can be operated without the claimed method of invention II. As shown in the following rejection, the lamp pertaining to the claimed inventions is not novel and therefore lacks a special technical feature and thereby unity of invention.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 5-7 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. PG Publication 2001/0003411 A1 to Honda et al.

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In regard to claim 1, Honda discloses high-pressure discharge lamp comprising:

a bulb (lighting source bulb IB, paragraph 159) that includes a light emitting part having an electrode pair disposed and a discharge space formed therein (first electrode 2A and second electrode 2B, paragraph 159), and

a first sealing part and a second sealing part provided at different ends of the light emitting part (small-diameter portions 1b, paragraph 160); and

a proximity conductor (metal-coil CO2, paragraph 172) formed from a lead wire, a section of the lead wire being wound around an outer circumference of at least one of the first sealing part and a section of the light emitting part to form a wound portion (shown in figure 4), and

a remaining section of the lead wire forming a lead portion that extends from the wound portion across the light emitting part in proximity to or contacting with an outer surface of the light emitting part (junction conductor CC1, paragraph 170, is formed in proximity to the outer surface of the light emitting part), to a side of the discharge lamp on which the second sealing part is disposed (shown in figure 4), wherein

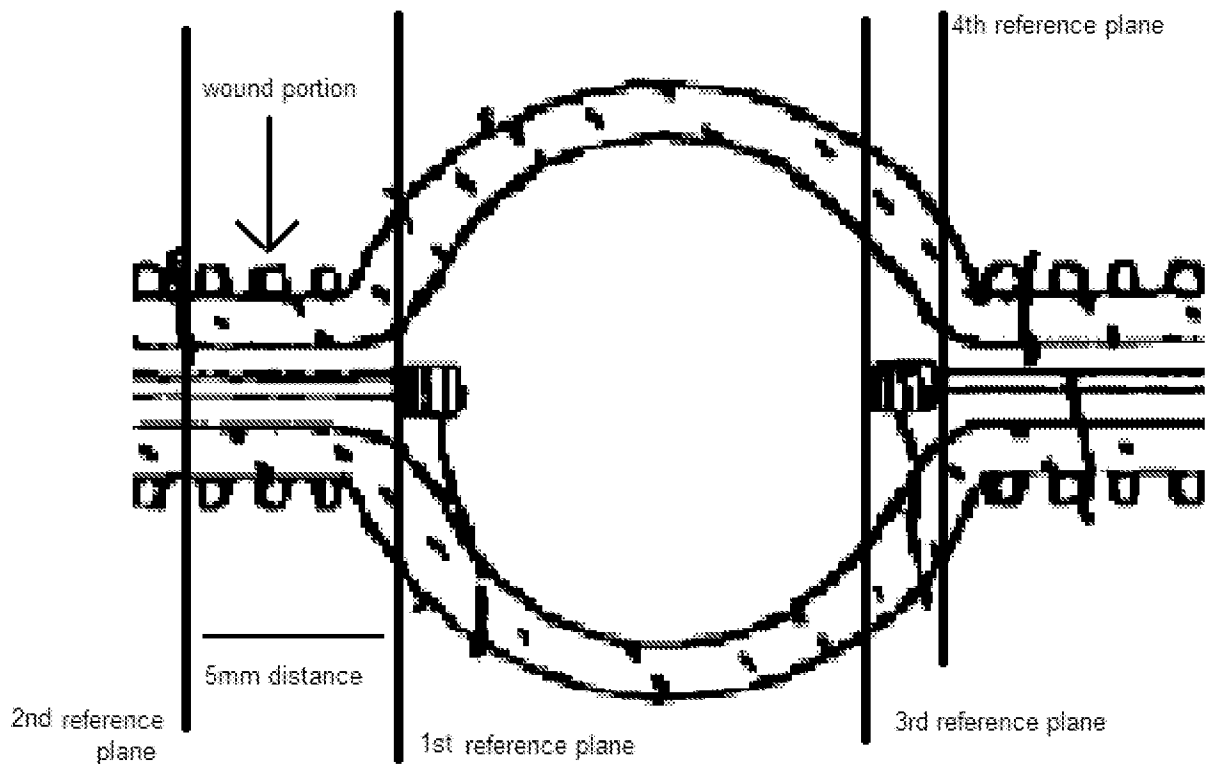
the lead portion is electrically connected to the electrode (junction conductor CC1 is connects the electrode pair and outer lead terminals, paragraph 55), of the pair, positioned nearer the second sealing part (shown in figure 4), and at least a section of the wound portion is wound substantially spirally at least 0.5 turns in a range from a 2<sup>nd</sup> reference plane to a 3<sup>rd</sup> reference plane (shown in figure below), and

a closed loop around one of the light emitting part and the first sealing part does not exist within the range (shown in figure below and figure 4 to see the loop is open), where

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the 2<sup>nd</sup> to 3<sup>rd</sup> reference planes are parallel to a 1<sup>st</sup> reference plane lying orthogonal to a bulb longitudinal direction and including an end of the discharge space positioned at a base portion of the electrode nearer the first sealing part (shown in figure below),

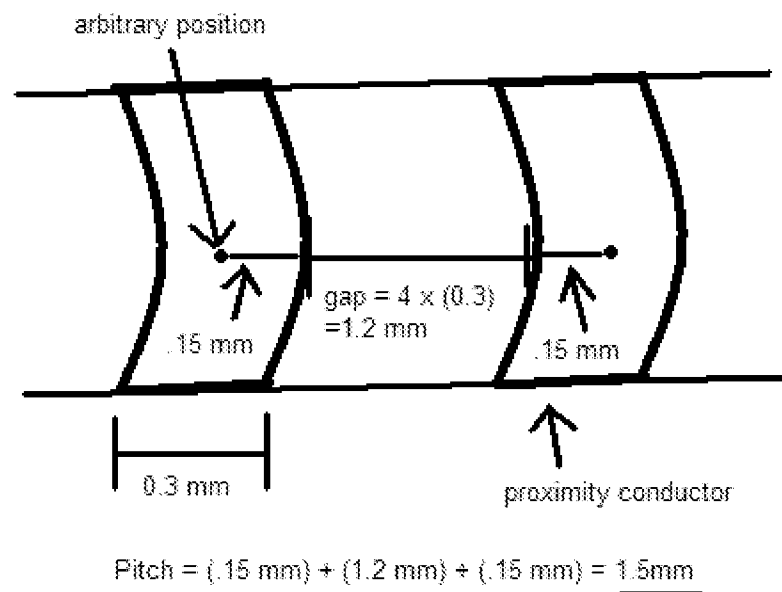
the 2<sup>nd</sup> reference plane being distant 5 mm from the 1<sup>st</sup> reference plane (the length of the sealing part is 8mm, paragraph 181, so these reference planes can be chosen to be 5 mm apart) along the first sealing part and the 3<sup>rd</sup> reference plane passing through a tip of the electrode nearer the second sealing part (shown below).



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In regard to claim 4, Honda discloses the limitations of claim 1 and that in a range defined by the 2<sup>nd</sup> and 3<sup>rd</sup> reference planes, a pitch interval of the substantially spirally wound portion of the proximity conductor is at least 1.5 mm.

Honda discloses that when the winding pitch of the coil is 500%, a gap four times wider than the diameter of the metallic wire shaping the coils is defined between two adjacent turns (paragraph 92). The diameter of the coil is 0.3 mm (paragraph 186). The figure below shows that the interval pitch as defined by the applicant ("distance in the longitudinal direction from an arbitrary position on the proximity conductor to a position removed one revolution (360 degrees or 1 turn) from the arbitrary position") is at least 1.5 mm.



In regard to claim 12, Honda discloses the high-pressure discharge lamp of claim 1 and a lamp incorporating the high-pressure discharge lamp within a concave reflective mirror (figure 9 shows the lamp encased with reflector 14, paragraph 258).



***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. PG Publication 2001/000 3411 A1 to Honda et al. as applied to claim 1 above, and further in view of JP 58198327 to Danno et al.

In regard to claim 3, Honda discloses the high-pressure discharge lamp of claim 1 but does specifically disclose that a shortest distance from the lead portion to the inner surface of the light emitting part is 10 mm or less in a range defined by the 1st reference plane and a 4th reference plane parallel to the 1st reference plane and including an end of the discharge space positioned at a base portion of the electrode nearer the second sealing part.

Danno discloses a metallic vapor discharge lamp wherein a proximity conductor is formed in contact with the bulb (less than 10 mm) along its length (within any range defined by reference planes).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the lead portion within a 10 mm range of the inner surface of the light emitting part because by having contact between the proximity conductor and the luminous bulb the

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mounting work of the proximity conductor is facilitated and start voltage is accurately reduced and, in turn, the unevenness of the start voltage between lamps can also be reduced, as taught by Danno.

Claims 8-11, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. PG Publication 2001/000 3411 A1 to Honda et al. as applied to claim 1 above.

In regard to claim 8, Honda discloses the high-pressure discharge lamp of claim 1 but does not specifically disclose that there is a voltage applying unit operable to apply a high-frequency voltage to the electrode pair.

Honda discloses that a high-frequency voltage is being applied to the electrode pair (discussed in claim 5) but not that there is a voltage applying unit.

However it would have been obvious to one of ordinary skill in the art at the time the invention was made that a voltage applying unit could be used to supply the voltage to the lamp because Honda only discloses that a high-frequency voltage is supplied and does not limit what is supplying it. One of ordinary skill in the art would see that a voltage applying unit that supplies high-frequency voltage would be suitable in Honda's invention because it is an obvious variation of the voltage applying circuit taught by Honda.

Applicant is respectfully reminded that while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. The clause in claim 8, "a high frequency

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voltage is applied to the electrode pair prior to application of a high-voltage pulse to initiate a discharge of the high-pressure discharge lamp,” does not structurally distinguish the apparatus from the prior art. See also MPEP §2114.

In regard to claim 9, Honda teaches the lighting method of claim 8 and that the frequency of the high-frequency voltage is in a range of 1 kHz to 1 MHz (the operating frequency of the lighting circuit is defined in the range of 5 to 200 kHz, paragraph 121).

In regard to claim 10, Honda teaches the lighting method of claim 8 and that the amplitude of the high frequency voltage is at least 400 V (starting voltage is 1.0 kVp-p, paragraph 194).

In regard to claim 11, Honda discloses the high-pressure discharge lamp of claim 1 teaches the lighting device of claim 8. It would be obvious to one of ordinary skill in the art at the time the invention was made that the lighting device of claim 8 could be used to supply the voltage for the lamp of claim 1.

In regard to claim 13, Honda discloses the high-pressure discharge lamp of claim 1 and teaches the high-pressure discharge lamp device of claim 11 and an image display device using them (used in an image projection device, paragraph 135).

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In regard to claim 14, Honda discloses the high-pressure discharge lamp of claim 1 and teaches the high-pressure discharge lamp device of claim 11 and a headlight device using the high-pressure discharge lamp (used in a mobile head light, paragraph 135).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary Snyder whose telephone number is (571)270-5291. The examiner can normally be reached on Monday through Thursday, 7:30AM to 6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Toan Ton can be reached on (571)272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Zachary Snyder/  
Examiner, Art Unit 2889

/Toan Ton/  
*Supervisory Patent Examiner*  
*Art Unit 2889*